

NARRATIVE REPORT  
Fishkun Willow Creek & Benton Lake  
May 1 to August 31, 1947

I. GENERAL

A. Weather Conditions:

Table of monthly precipitation and maximum and minimum temperatures.

Year	Month	Precipitation	Maximum	Minimum
1947	May	.99	80	18
	June	2.78	81	37
	July	5.28	94	39
	August	<u>1.57 .01 3.78</u>	91	39
1946	May	2.88	73	15
	June	2.29	94	37
	July	1.25	94	38
	August	<u>1.07 7.49</u>	92	34
1945	May	1.19	79	25
	June	3.83	89	33
	July	.93	94	37
	August	<u>.23 6.18</u>	90	40
1944	May	2.48	83	23
	June	3.22	90	36
	July	1.46	91	36
	August	<u>2.04 9.20</u>	86	39
1943	May	1.43	77	17
	June	6.64	76	30
	July	1.94	86	41
	August	<u>.48 10.49</u>	91	31
1942	May	4.99	82	25
	June	2.04	78	33
	July	.95	84	39
	August	<u>.22 8.20</u>	94	35
1941	May	2.73	86	26
	June	2.40	96	36
	July	1.02	96	43
	August	<u>.88 7.03</u>	94	36

Precipitation and temperature data were obtained from the U. S. Weather Bureau Station in Choteau maintained by the County Extension Office. The data was copied from the Extension Service daily record book by the County Surveyor and forwarded to the Refuge Manager.

From the preceding table it will be noted that there was no precipitation recorded in Choteau during July and only .01 of an inch during August. This is probably correct for Choteau but it is hard to believe that such a drouth was general all over the entire area. No equipment is available for recording precipitation on any of the refuge areas in the Choteau-Great Falls district and in the past we have been using the data recorded at Choteau for the entire district. During July and August news paper articles reported heavy hail damage to crops in this district yet it seems like this too missed Choteau as no precipitation is recorded there.

Average precipitation recorded at Choteau during May, June, July and August for the 7 year period from 1940 through 1946 was 7.61 inches where as this year only ~~5.76~~<sup>5.28</sup> inches were recorded.

#### B. Water Conditions:

(Fishkum)

End of month	1947	1946	1945	1944	1943	1942
May	4368.4	4370.4	4366.3	4370.9	4369.7	4370.4
June	4371.0	4371.0	4368.5	4370.9	4369.7	4369.2
July	4362.7	4365.3	4353.9	4364.8	4355.8	4356.0
August	4366.6	4363.4	4367.7	4361.4	4362.0	4360.0

Water started coming into Fishkum about May 10th and level of the reservoir raised gradually through to June 10th, reaching a maximum of 4371.1. During the balance of June waterlevels remained constant. From July 1 to 31 there was a drop from 4370 to 4362.7. During August levels were coming up again throughout the entire month reaching 4366.6 by August 31. During May and June potholes and small ponds in the general area of this refuge were all standing at overflow levels. The refuge manager does not know what the stage of waterlevels were outside the refuge during July and August as no visits were made to the area during that time.

(Willow Creek)

End of Month	1947	1946	1945	1944	1943	1942
May	4134.8	4131.5	4137.0	4137.2	4131.5	4114.0
June	4139.4	4136.6	4138.5	4140.1	4134.3	4125.4
July	4131.2	4135.5	4134.9	4136.4	4137.7	4127.1
August	4127.8	4125.9	4128.2	4132.7	4136.6	4127.4

At Willow Creek Refuge waterlevels were on the up grade continuously until July 1st reaching a maximum of 4138.4 feet. From July 1st to August 31 waters were receding gradually and went down to 4127.8 feet. Greatest deviation was during July with a drop of 7.2 feet.

(Benton Lake)

This refuge was visited by the refuge manager on June 25 and 26th for the purpose of determining the amount of water and water fowl if any on the refuge this season. The area was covered by saddle horse on the 25th and by pickup truck and on foot on the 26th. At this time I found the creek bed level full of water as far back out of the refuge as could be seen, a distance I would say of about  $1\frac{1}{2}$  miles. Inside the refuge the creek bed was full for about a distance of 1 mile. This creek bed averages about 14 feet wide and from 3 to 5 feet deep. A full level is maintained during runoff periods by a series of dams above the refuge and two inside the refuge. A dam in Carl Hinderagers field just outside our refuge fence with an over-flow ditch taking off from this dam carries water across the north-west corner of the refuge and back out into Mr. Hinderagers field bordering the refuge on the west. From there it floods over Mr. Hinderagers land and back across refuge hay units 1, 2, 3, 4 and 6. By the time this water reaches hay units 8 and 9 it is in creek form again and fills a depression in section 9 about  $\frac{1}{2}$  mile long averaging 15 feet wide and 2 to 4 feet deep. From this point on any over-flow finally gets into the main lake bed.

In the main lake bed I found water from 0 to 18 inches deep in an area estimated to be about 600 acres. Everything under the 3612 foot contour level contained water ranging from about 6 to 18 inches deep. The large drainage cut in section 30 outside the fenced portion of the refuge also contained a strip of water about  $\frac{1}{2}$  mile long, 14 feet wide and about 3 feet deep. A letter received from Mr. Charles Hinderager dated August 17th., stated that cattle grazing in the refuge were still getting plenty of water without pumping.

I believe that considerable more water could be accumulated in the main lake basin if the flooding in the western portion of the refuge was stopped. For more information on this matter please refer to my memorandum to Mr. Mushbach dated July 9, 1947, two copies of which were forwarded to the Regional Office.

C. Fires:

No fires were reported on any of the refuges in this area during this period. Fishman and Willow Creek do not have a critical fire hazard as vegetation is never very heavy and old vegetation does not accumulate from year to year because of grazing practices.

At Benton Lake Refuge fire fighting equipment belonging to the Service is maintained at the Carl Hinderager ranch on the northwest corner of the refuge and at the John Hinkle ranch on the southeast corner. This equipment consists of 2 hand operated Indian fire pumps with 5 gallon water containers, 6 shovels and 2 grub hoes at each place. Fire guards on the refuge were maintained once during June by farmers bordering the area. The refuge is completely circled with a good fire guard. All farmers bordering the area are well aware of the danger of fire in this refuge and are all willing cooperators and fighters in case a fire does get started.

## II WILDLIFE

No observations on wildlife were made at Fishkun and Willow Creek during the period.

While on an inspection of Benton Lake Refuge on June 25 and 26 I estimated there were approximately 5000 adult mallards and Pintails and very close to 500 young broods of ducks on the refuge. For more detailed information on this subject please refer to my memorandum to Mr. Mushbach dated July 9, 1947.

## III REFUGE DEVELOPMENT AND MAINTENANCE

### A. Physical Developments. (Fishkun)

A completely new fence was constructed around the recreational grounds at Fishkun Refuge during this period. This was done by the refuge manager and help donated by the Teton County Sportsmen of Choteau. The fence was constructed during the period from May 16 to 20th. Materials were all furnished by the Fish and Wildlife Service. Posts were obtained from the stock pile at Pablo Refuge, treated with creosote at the National Bison Range and hauled to Fishkun. The wire was obtained from stock at the National Bison Range. Two stiles or walkover gates were constructed at Ninepipe and hauled to Fishkun on the next visit to that area and set up in the fence line. Old posts from the replaced fence were piled up on the recreational grounds to be used as fire wood for public use. For detailed information on this project please refer to my memorandum report to Mr. Mushbach dated May 22, 1947 two copies of which were included for the Regional Office.

No maintenance or development work outside of the fire guards on Benton Lake were performed on any of the other refuges in this area.

## IV ECONOMIC USE

### A. Grazing:

Grazing privileges at Fishkun and Willow Creek Refuges are looked after by the Reclamation Service.



## Benton Lake

The primary purpose of the visit to Benton Lake Refuge June 25th and 26th was for the purpose of taking applications for grazing and haying permits for this season. Before establishing a starting date for either haying or grazing it was necessary to make an inspection of the refuge water and wildlife conditions. After making this inspection the refuge manager decided that neither grazing or haying operations should start until July 15th because of the wildlife population on the refuge and too because both hay and grass was not far enough along to permit earlier operations.

During this visit to the refuge applications were taken for 7 grazing permits totaling 1447.5 A.U.M.'s. Applications requested permits to run from July 15th to November 14th. After returning to the refuge headquarters the refuge manager assisted Mr. Bruce, the clerk at the National Bison Range with making up the following permits:

Permittee	Permit No.	A.U.M.'s	Total payment
John Hinkle	17601	300	\$150.00
Charles Hinderager	17602	350	175.00
E. G. Stafford	17603	60	30.00
Verle Ewing	17604	120	60.00
Carl Hinderager	17605	200	100.00
O. M. Olson	17606	17.5	8.75
R. R. Swan	17612	400	200.00
Total		1447.5	\$723.75

Payment in full was received with each grazing application. This eliminates a considerable amount of later office work.

Haying:

Five applications for haying permits were also taken during the June visit to this refuge, and permits for these also issued on return from this visit. These were as follows:

Permittee	Permit No.	Tons Requested & down	payment
Charles Hinderager	17607	60	\$15.00
John Hinkle	17608	100	25.00
Lawrence E. Suek	17609	40	10.00
Verle Ewing	17610	16	4.00
Carl Hinderager	17611	25	6.25
Total		241	\$60.25

Submitted Sept. 6, 1947

*Leon C. Snyder*  
Leon C. Snyder

Regional Office

REFUGEE GRAIN REPORT

Refugee..... Months of May thru June 1947

(1) VARIETY	(2) ON HAND BEGINNING OF PERIOD	(3) RECEIVED DURING PERIOD	(4) TOTAL	(5) GRAIN DISPOSED OF			(6) ON HAND END OF PERIOD	(7) PROPOSED USE		
				TRANS- FERRED	SEEDED	FED		SEED	FEED	SURP.
Wheat	30	none	30	none	none	none	30	none	30	none

(8) Indicate shipping or collection points..... Chatham, Kentucky

(9) Grain is stored at..... service building, headquarters site.

(10) Remarks.....

## REFUGEE GRAIN REPORT

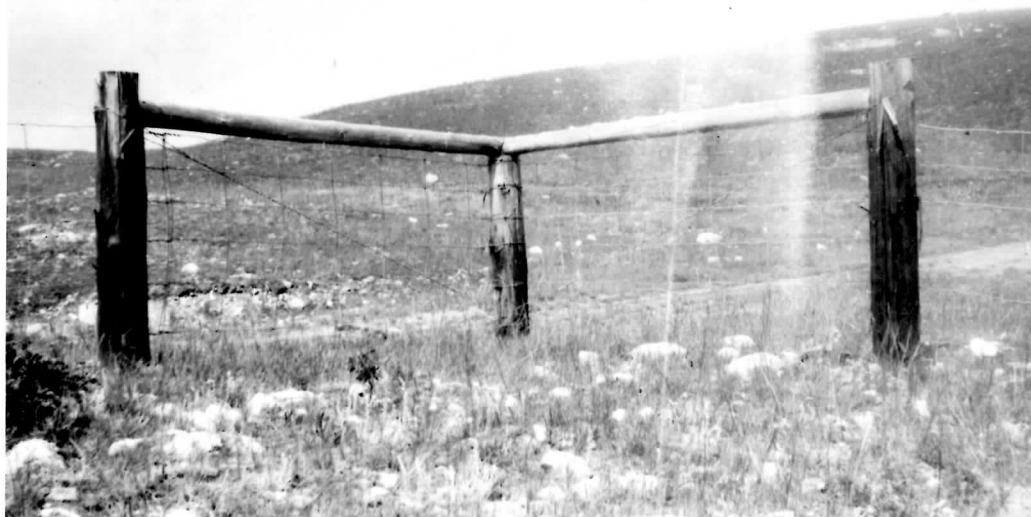
This report should cover all grain on hand, received, or disposed of, during the period covered by this narrative report.

Report all grain in bushels. For the purpose of this report the following approximate weights of grain shall be considered equivalent to a bushel: Corn (shelled)--55 lbs., Corn (ear)--70 lbs., Wheat--60 lbs., Barley--50 lbs., Rye--55 lbs., Oats--30 lbs., Soy Beans--60 lbs., Millet--50 lbs., Cowpeas--60 lbs., and Mixed--50 lbs. In computing volume of granaries, multiply the cubic contents (cu. ft.) by 0.8 bushels.

- (1) List each type of grain separately: Corn, wheat, proso millet, etc. Include only domestic grains; aquatic and other seeds will be listed on NR-9.
- (3) Report all grain received during period from all sources, such as transfer, share-cropping, or harvest from food patches.
- (4) A total of Columns 2 and 3.
- (6) Column 4 less Column 5.
- (7) This is a proposed breakdown by varieties of grain listed in Column 6.
- (8) Nearest railroad station for shipping and receiving.
- (9) Where stored on refuge: "Headquarters grainary", etc.
- (10) Indicate here the source of grain shipped in, destination of grain transferred, data on condition of grain, unusual uses proposed.



Two stiles or walkover gates were installed in the fence around the Fishdam Recreational area on June 23. This fence was all constructed new during May. The Teton County Sportsman's Association at Choteau furnished half the labor.



Fence corners such as this should last for a long time. Only round cedar and tamarack posts well treated with creosote were used. 36 inch high woven wire placed about 4 inches off the ground was stretched good and tight and posts were weighted down in the low places.